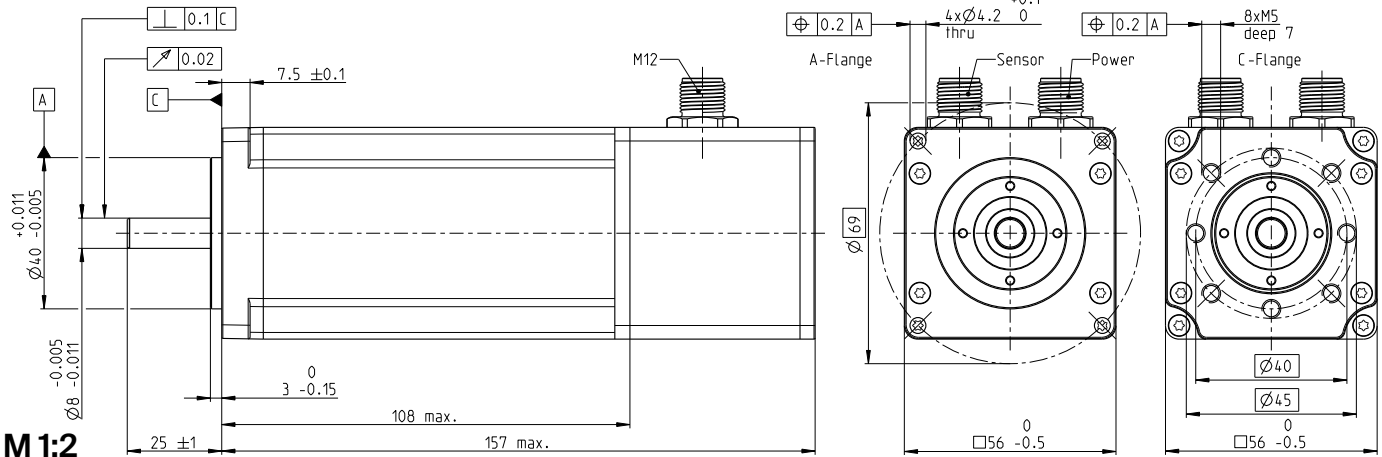


IDX 56 L □56 mm, brushless, BLDC motor

Key Data: 450/500 W, 1040 mNm, 6000 rpm



IDX



Motor Data

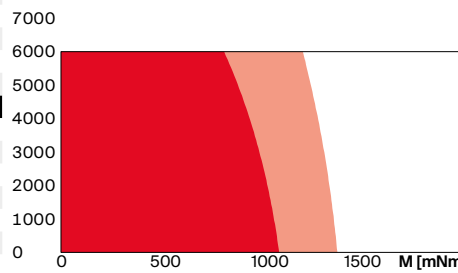
1_	Nominal voltage	V	24	48
2_	No load speed	rpm	3430	5440
3_	No load current	mA	693	673
4_	Nominal speed	rpm	2890	4780
5_	Nominal torque	mNm	1040	897
6_	Nominal current (max. continuous current)	A	14.7	10.3
7_	Stall torque	mNm	16900	27400
8_	Stall current	A	255	328
9_	Max. efficiency	%	89.9	91.2
10_	Terminal resistance	Ω	0.0942	0.146
11_	Terminal inductance	mH	0.143	0.228
12_	Torque constant	mNm/A	66.2	83.6
13_	Speed constant	rpm/V	144	114
14_	Speed/torque gradient	rpm/mNm	0.205	0.200
15_	Mechanical time constant	ms	0.57	0.55
16_	Rotor inertia	gcm ²	265	265

Thermal data

17_	Thermal resistance housing-ambient	K/W	2.2
18_	Thermal resistance winding-housing	K/W	0.68
19_	Thermal time constant winding	s	37.5
20_	Thermal time constant motor	s	1320
21_	Ambient temperature	°C	-40...+100
22_	Max. winding temperature	°C	155

Operating Range

n [rpm] winding 48 V



■ Continuous operation
■ Continuous operation with reduced thermal resistance R_{th2} 50%
 Short term operation

Mechanical data ball bearings

23_	Max. speed	rpm	6000
24_	Axial play	mm	0..0.14
	Preload	N	16
	Direction of force		pull
25_	Radial play	preloaded	
26_	Max. axial load (dynamic)	N	12
27_	Max. force for press fits (static) (static, shaft supported)	N	150
28_	Max. radial load [mm from flange]	N	110 [12.5]

Other specifications

29_	Number of pole pairs	8
30_	Number of phases	3
31_	Weight of motor	g 1196
32_	Typical noise level [rpm]	dB(A) 58 [4000]

Modular System

Gear	Stages [opt.]
390_GPX 52 A/UP	1-3
391_GPX 52 LN	1-3

Sensor integrated

Accessories
569_AB 42 S

Details on catalog page 40

Motor Control
534_ESCON Module 50/8
534_ESCON Module 50/8 HE
535_ESCON 70/10
543_EPOS4 Module 50/15
545_EPOS4 Compact 50/15
547_EPOS4 70/15

Power Connection (M12, male, 5 poles, L-coded)

Pin 1	Motor winding 1
Pin 2	Motor winding 2
Pin 3	Motor winding 3
Pin 4	U_{brake+} (optional)
Pin 5	U_{brake} GND (optional)

Sensor Connection (M12, male, 17 poles, A-coded)

Pin 1	GND	Pin 10	B
Pin 2	NTC	Pin 11	DATA/
Pin 3	V_{cc} 4.75...26 V	Pin 12	DATA
Pin 4	A	Pin 13	CLK
Pin 5	I/	Pin 14	CLK/
Pin 6	A/	Pin 15	Hall Sensor 3
Pin 7	B/	Pin 16	Hall Sensor 1
Pin 8	I	Pin 17	Hall Sensor 2
Pin 9	NTC		

NTC resistor 25°C: 10 kOhm ±1%, beta (25-100°C): 3460 K

Wiring diagram for Hall sensors see p. 65

Configuration

Flange front: A-Flange/C-Flange
Encoder Interface: SSI/BiSS-C

Notes about the encoder

Output level incremental, RS422, with internal supply voltage 5 V
Input/output level absolute, RS422, with internal supply voltage 5 V
Resolution (not configurable) 1024 cpt / 4096 steps (12 bit)
More production information can be found online, under ENX 22 EASY INT